

Title (en)

FABRICATION PROCESS OF COATED STAMPED PARTS AND PARTS PREPARED FROM THE SAME

Title (de)

HERSTELLUNGSVERFAHREN FÜR BESCHICHTETE STANZTEILE UND DARAUS HERGESTELLTE TEILE

Title (fr)

PROCESSUS DE FABRICATION DE PIÈCES ESTAMPÉES REVÊTUES ET PIÈCES PRÉPARÉES À PARTIR DE CE PROCESSUS

Publication

**EP 2391508 B1 20200401 (EN)**

Application

**EP 10702612 A 20100201**

Priority

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Abstract (en)

[origin: WO2010085983A1] A manufacturing process of a hot stamped coated part comprising the following successive steps, in this order: providing a hot rolled or cold rolled steel sheet comprising a steel substrate and an aluminium or aluminium-alloy precoat, the precoat containing more than 50% of free aluminium and having a thickness comprised between 15 and 50 micrometers, then cutting the steel sheet to obtain a precoat steel blank, then heating the blank under non protective atmosphere up to a temperature  $T_i$  comprised between  $T_e - 10^\circ\text{C}$  and  $T_e$ ,  $T_e$  being the eutectic or solidus temperature of the precoat, then heating the blank from the temperature  $T_i$  up to a temperature  $T_m$  comprised between 840 and 950°C under non protective atmosphere with a heating rate  $V$  comprised between 30°C/s and 90°C/s,  $V$  being the heating rate between the temperature  $T_i$  and the temperature  $T_m$ , in order to obtain a coated heated blank, then soaking the coated heated blank at said temperature  $T_m$  for a time  $t_m$  comprised between 20s and 90s, then hot stamping the blank in order to obtain a hot stamped coated part, then cooling said stamped part at a cooling rate in order to form a microstructure in the steel substrate comprising at least one constituent chosen among martensite or bainite.

IPC 8 full level

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CPC (source: EP KR US)

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